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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,587

12/03/2003

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EXAMINER

CEHIC, KENAN

ART UNIT

PAPER NUMBER

2616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/725,587	Applicant(s) TSUJIMOTO, HIROYUKI	
	Examiner Kenan Cehic	Art Unit <del>2609</del> 2616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03/2003</u> | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. The indicated allowability of claim 10 is withdrawn in view of the newly discovered reference(s) to Hester et al. (US 5,097,410). Rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-7 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is a single means claim. See MPEP 2164.08 (a).

Claims 2-7 are rejected since they depend on claim 1.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claim 1, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito (US 6,509,988).

For claim 1, Saito discloses an interface device (see col 2 lines 3-27 "IEEE-1394 serial bus node") for performing data transmission (see col 2 lines 3-27 "packet transmission") with a further device (see Fig 1 "remote nodes") connected to a network (see Fig 1 "remote nodes" and Fig 1;1-12) at any of a plurality of transmission rates (see Fig. 2 "Speed") that are regulated (see col 3 lines 55-65 "maximum speed....top speed with...node can accept and transmit packets"), the interface device (see col 2 lines 3-27 "IEEE-1394 serial bus node") comprising:

a transmission rate control circuit (see column 2 lines 3-27 "compare-and-select circuit....first speed setting circuit....second speed setting circuit") configured to change an operation speed (see col 2 lines 3-27 "setting and operating speed of the first port transceiver.....for setting an operating speed of the second port transceiver.... begin packet transmission ...stored and received speed values") of the interface device (see col

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2 lines 3-27 “IEEE-1394 serial bus node”) when the transmission rate must be switched (see col 2 lines 3-27 “compare-and-select circuit for comparing.....begin packet transmission ...stored and received speed values”).

For claim 11, Saito discloses a method, comprising: configuring a transmission rate control circuit (see column 2 lines 3-27 “ compare-and-select circuit....first speed setting circuit....second speed setting circuit”) to change operation speed (see col 2 lines 3-27 “setting and operating speed of the first port transceiver.....for setting an operating speed of the second port transceiver.... begin packet transmission ...stored and received speed values”) of at least one of a plurality of devices (see col 2 lines 3-27 “IEEE-1394 serial bus node....port transceivers”) when a transmission rate must be switched (see col 2 lines 3-27 “compare-and-select circuit for comparing.....begin packet transmission ...stored and received speed values”); and changing the operation speed (see col 2 lines 3-27 “setting and operating speed of the first port transceiver.....for setting an operating speed of the second port transceiver.... begin packet transmission ...stored and received speed values”) of the at least one of the plurality of devices (see col 2 lines 3-27 “IEEE-1394 serial bus node....port transceivers”) based on the configured transmission rate control circuit (see column 2 lines 3-27 “ compare-and-select circuit....first speed setting circuit....second speed setting circuit”).

4. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Harriman, JR et al. (US 5,442,750)

For claim 8, Harriman discloses a method (see col 1, lines 49-60 "method") for controlling (see col 5 lines 30-65 "protocol rules") an interface device (see Fig 1, 10) for performing data transmission (see col 4 lines 1-20 "subword" transmission along...bus 14") with other devices connected (see col 5 lines 30-65 " each node connected to the sub-bus ....all destination nodes") to a network (see Fig 1, 14, 26a-n and col 5 lines 30-65 "each node connected to the sub-bus...all destination nodes") at any of a plurality of transmission rates (see Fig 1, 30 "SPEED selection" and see col 3 lines 35-45 "operates at a speed selected") that are regulated (see Fig 1, 30, 24), the method comprising: providing the interface device (see Fig 1, 10) and each device (see col 5 lines 30-65 " each node connected to the sub-bus ....all destination nodes") that are configured to change its own operation speed (see Fig 1, 30 "SPEED selection" and see col 3 lines 35-45 "operates at a speed selected" and col 5 lines 30-65 "transmission speed can be increased if and only if all destination nodes can read....at the higher rate....as indicated by the speed selection circuitry....."); and changing operation speeds of each device (see Fig 1, 30 "SPEED selection" and see col 3 lines 35-45 "operates at a speed selected" and col 5 lines 30-65 "transmission speed can be increased if and only if all destination nodes can read....at the higher rate") and the interface device (see Fig 1, 30 "SPEED selection" and see col 3 lines 35-45 "operates at a speed selected" and col 5 lines 30-65 "transmission speed can be increased if and only if all destination nodes can read....at the higher rate") from a low-speed transmission rate to a high-speed transmission rate (see Fig 1, 30 "SPEED selection" and see col 3 lines 35-45 "operates at a speed selected" and

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col 5 lines 30-65 “transmission speed can be increased if and only if all destination nodes can read....at the higher rate....highest speed”) when switching to a high-speed transmission rate is required (see Fig 1, 30 “SPEED selection” and see col 3 lines 35-45 “operates at a speed selected” and col 5 lines 30-65 “transmission ...at highest speed....received information....transmission speed can be increased if and only if all destination nodes can read....at the higher rate”) and each device included in a route (see Fig 1, 30 “SPEED selection” and see col 3 lines 35-45 “operates at a speed selected” and col 5 lines 30-65 “transmission speed can be increased if and only if all destination nodes can read....at the higher rate”) to a transmission destination (see Fig 1, 30 “SPEED selection” and see col 3 lines 35-45 “operates at a speed selected” and col 5 lines 30-65 “transmission speed can be increased if and only if all destination nodes can read....at the higher rate”) is compatible for the high-speed transmission (see Fig 1, 30 “SPEED selection” and see col 3 lines 35-45 “operates at a speed selected” and col 5 lines 30-65 “transmission speed can be increased if and only if all destination nodes can read....at the higher rate”) .

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Saito (US 6,509,988) in view of Harumoto et al (US 6,460,097 B1).

For claim 2, Saito discloses the claimed invention as described in paragraph 3.

For claim 2, Saito teaches and interface device (see col 2 lines 3-27 “IEEE-1394 serial bus node”), wherein the switching of the transmission rate is executed (see col 2 lines 3-27 “setting and operating speed of the first port transceiver.....for setting an operating speed of the second port transceiver.... begin packet transmission ...stored and received speed values”) when data transmission to the further device is required (see Fig 1, “to/from remote nodes” and col 2 lines 3-27 “compare-and-select circuit for comparing.....begin packet transmission ...stored and received speed values”). Saito et al. does not teach that the further device request a transmission rate switch. Harumoto et al for the same or similar field of endeavor, teaches when a request to switch to a different transmission rate is received from the further device (see column 6 lines 10-14). It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Saito by using the features, as taught by Harumoto, in order to prevent buffer overflow and to better regulate data transmission in the network.



6. Claim 3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US 6,509,988) in view of Cook et al (5,504,757).

For claims 3,5,6 Saito discloses all the claimed invention as described in paragraph 3.

Saito is silent about:

For claim 3, Cook et al teaches The interface device, wherein the transmission rate control circuit switches to a transmission rate enabling low-speed transmission during low-speed transmission and switches to a transmission rate enabling high-speed transmission when high-speed transmission is required.

For claim 5, Cook et al. disclose The interface device, further comprising a register for storing among the plurality of transmission rates, a transmission capacity of the interface itself, a transmission rate that is presently possible , and a transmission rate to be switched to next.

For claim 6, Cook et al. discloses the interface device, wherein the register stores information) for a mode for maintaining the present transmission rate or information for a mode for switching to a transmission rate enabling the minimum speed transmission operation .

Cook from the same or similar field of endeavor discloses a serial bus system with the following features:

For claim 3, Cook et al teaches The interface device (see column 4, lines 39-44), wherein the transmission rate control circuit (see column 4 lines 29-32) switches to a transmission

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rate enabling low-speed transmission during low-speed transmission (see Figure 3 and column 7 line 64 through column 8 line 4) and switches to a transmission rate enabling high-speed transmission when high-speed transmission is required (see column 7 lines 51-53).

For claim 5, Cook et al. disclose The interface device (see column 4, lines 39-44) , further comprising a register for storing (see column 3 lines 47- 51) among the plurality of transmission rates (see column 9 lines 4-6), a transmission capacity of the interface itself (see column 10 lines 25-28), a transmission rate that is presently possible (see column 7 lines 55-58), and a transmission rate to be switched to next (see column 7 lines 60 – 64).

For claim 6, Cook et al. discloses the interface device (see Figure 1B and column 4, lines 39-44), wherein the register stores information (see column 3 lines 47- 51) for a mode for maintaining the present transmission rate (see column 8 lines 36-39) or information for a mode for switching to a transmission rate enabling the minimum speed transmission operation (see column 8 lines 7-10).

For claim 7, Cook discloses that the interface device (see column 4, lines 39-44), wherein setting of the operation mode stored in the register (see column 3 lines 47- 51) is changeable by a bus reset (see column 1 lines 55-62)

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Saito by using the features, as taught by Cook, in order to provide obtaining a transfer speed prior to each isochronous transfer rather than storing a predetermined speed (see column 2)

7. Claim 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Saito (US 6,509,988) in view of Domon et al (US 6,950,408 B1).

For claim 4, Harriman et al teaches all the claimed invention as described in paragraph 3. Harriman et al does not teach switching to a low-speed transfer rate when connection is set up. Domon et al, from the same or similar field of endeavor, teaches the interface device (see Figure 1), wherein a transmission rate control circuit (see Figure 1, 41) switches to a transmission rate enabling minimum speed transmission operation (see column 8 lines 46-49 and 54-62) when starting operation for connection to the network (see column 8 lines 40-46) or when data is not being transmitted.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Harriman by using the features, as taught by Domon, in order to provide configuration data at the lowest supported speed so that all nodes in the network, which might only support the lowest speed, are configured correctly.

8. Claim 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Harriman, JR et al. (US 5,442,750) in view of Domon et al (US 6,950,408 B1).

For claim 9, Cook et al discloses all the claimed invention as described in paragraph 4. Cook et al does not discloses determining and setting the operation mode when high-speed transmission is needed. Domon et al. from the same or similar field of endeavor, discloses a method for controlling an interface device (see Figure 1), further comprising:

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determining whether the high-speed transmission is required or not (see column 6 lines 25-31) after the high-speed transmission ends (see column 6, lines 15-21, setting physical ID, sets the speed to low speed of 100 Mbps);  
setting information for a mode for continuing high-speed transmission (see column 6, lines 6-12) when the high-speed transmission is required (see column 5, line 23-25), and  
setting information for a mode for switching to a transmission rate enabling minimum speed transmission operation (see column 6 lines 34-39) when the high-speed transmission is not required (see column 5 lines 14-18, conversion is needed when sending packets from a 400 Mbps to 100 Mbps node).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Harriman by using the features, as taught by Domon, in order to provide efficient bus usage, preventing wasted bandwidth

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harriman, JR et al. (US 5,442,750) in view of Hester et al. (US 5,097,410) and Domon et al (US 6,950,408 B1)

For claim 10, Harriman discloses the claimed invention as described in paragraph 4.

Harriman is silent about:

For claim 10, generating a bus reset after the high-speed transmission ends, and individually changing the respective setting of the operation modes of each device and the interface device itself with the bus reset.

Hester from the same or similar field of endeavor discloses a communication network with the following features:

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For claim 10, Hester discloses generating a bus reset (see col 19 lines 55-56 “bus to a reset”) after the high-speed transmission ends (see col 19 lines 55-56 “data transfer is complete”)

Domon from the same or similar field of endeavor discloses a communication network with the following features:

For claim 10, Domon discloses individually changing the respective setting of the operation modes (see col 10 lines 45-60 “reinitiate the isochronous transfer” and col 4 lines 8-30 “isochronous packets”) of each device (see Fig 5, 101, 241) and the interface device (see Fig 5, 101, 241) itself (see col 10 lines 45-60 “reinitiate the isochronous transfer” and col 4 lines 8-30 “isochronous packets” and col 7 lines 1-10 “isochronous resource manager connected to the bus B2”) with the bus reset (see col 10 lines 45-60 “bus reset” and col 16 lines 30-35 “bus reset”).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Harriman by using the features, as taught by Hester and Domon, in order to provide ; in order to minimize size by having a bi-directional data bus (see Hester col 2) order to provide efficient bus usage, preventing wasted bandwidth (Domon)

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US-5,621,901 A	Morriss et al.
US-2001/0042153 A1	Adachi, Kaoru
US-2002/0004872 A1	Ono, Koichi
US-2002/0112106 A1	Henehan et al.
US-6,509,988 B1	Saito, Tomoki
US-6,526,036 B1	Uchida et al.
US-6,633,586 B1	Heiss, Herbert
US-2004/0037233 A1	Suzuki et al.
US-6,829,225 B2	Staats, Erik P.
US-6,870,855 B2	Fujimori et al.

The references cited above are to show relevant interface devices and methods.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenan Cehic whose telephone number is (571) 270-3120. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

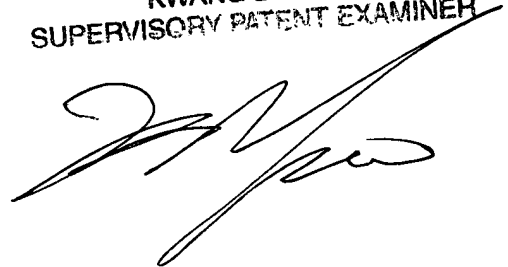
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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KC

KWANG BIN YAO  
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Kwang Bin Yao', is written over the printed name and title.